6-25-2007

SCN females on roots signal infestations and possibly ineffectiveness of resistance

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SCN females on roots signal infestations and possibly ineffectiveness of resistance

by Greg Tylka, Department of Plant Pathology

Many fields are not known to be infested with the soybean cyst nematode (SCN) because obvious, above-ground symptoms do not always occur. A reliable way to check for SCN on non-resistant (susceptible) soybean varieties is to dig roots, carefully crumble away much of the soil from the roots, and look for the adult SCN females. The females appear as small, round, white objects on the roots and are about the size of a period at the end of a sentence.

In addition to checking fields for SCN infestations, looking for SCN females on roots of SCN-resistant soybeans can serve as a check of the effectiveness of resistant varieties in controlling SCN reproduction.

Resistance to SCN in soybeans is not 100 percent effective, so it is normal to see a few (up to 15 or so) SCN females on the roots of resistant soybeans. But resistance may be failing if many (100 or more) SCN females are seen on resistant soybean roots. In 2006, there were numerous reports of many SCN females being seen on roots of SCN-resistant soybean varieties in Iowa.

A survey is currently underway, funded by the Iowa Soybean Association, to determine how well SCN populations from throughout Iowa can reproduce on SCN-resistant soybean varieties.

ISU Extension field agronomist John Holmes observed adult SCN females on soybean roots near Webster City in Hamilton County in mid-June 2007. The soybeans were planted in early May, and the SCN females were on roots of plants growing in high pH spots. SCN females should be apparent on young roots of soybean plants in Iowa through July and August. Roots should be checked no earlier than 4 or 5 weeks after planting.

Additional information about the biology, sampling, and management of SCN can be found on the Web at www.soybeancyst.info.

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SCN-resistant soybeans damaged by SCN in southwest Iowa. (Greg Tylka)

Adult soybean cyst nematode females on soybean roots at tip of key. (Greg Tylka)

Greg Tylka is a professor of plant pathology with extension and research responsibilities in management of plant-parasitic nematodes.

This article originally appeared on page 192 of the IC-498(16) -- June 25, 2007 issue.

Updated 06/28/2007 - 1:57pm